TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NUMBER 1000038

I. INTRODUCTION

This permit is the Title V permit renewal for the operation of an Ammonium Nitrate and Fertilizer production facility in St. David, Arizona. This is a renewal for Air Quality Permit No. M031143P0-98.

A. Company Information

Mailing Address: P. O. Box 700, Benson Arizona 85602
Facility Address: 1436 S. Apache Powder Road

B. Attainment Classification

This source is a stationary source located in St. David, Arizona, which is approximately 9 miles south of Benson, Arizona. Cochise County is listed as an Attainment Area for all criteria pollutants.

II. PROCESS DESCRIPTION

Please see application for in depth process description.

AOP-3 Nitric Acid Production Facility

Date of Mfg/Mod.: Post 1971
Emission Unit: Tail Gas Stack
Regulated Pollutants: NO_x, NH_3, Opacity
Applicable Regulations: 40 CFR 60 Subpart G
CEM Required: Yes / NO_x
Nitric Acid Production rate: 160 tons Nitric Acid per day
Hours of operation: 8760 hours per year

AOP-4 Nitric Acid Production Facility

Date of Mfg/Mod.: Post 1971
Emission Unit: Tail Gas Stack
Regulated Pollutants: NO_x, Opacity
Applicable Regulations: 40 CFR 60 Subpart G
CEM Required: Yes / NO_x
Nitric Acid Production rate: 300 tons Nitric Acid per day
Hours of operation: 8760 hours per year

Liquified Ammonium Nitrate Plant

Date of Mfg/Mod.: 1991
Emission Unit: Neutralizer
Regulated Pollutants: PM, NH_3, Opacity
Applicable Regulations: R18-2-730
Ammonium Nitrate Production rate: 700 tons per day of 100 percent of NH_4NO_3 by weight

Hours of operation: 8760 hours per year

Non-Point Sources

Emission Units: Storage Barn #1 Truck Loading
Storage Barn #2 Truck Loading
Unpaved Roadways
Various Conveyors
Two Deck Screen
Regulated Pollutants: PM, Opacity
Applicable Regulations: R18-2-602
R18-2-605
R18-2-606
R18-2-607
R18-2-610

Storage Vessels for Petroleum Liquids

Emission Units: Tank 1763 (3,000 gallon Gasoline Storage Tank)
Tank 4170 (8000 gallon Horizontal Petro-AG Storage Tank)
Regulated Pollutants: VOC
Applicable Regulations: R18-2-710

Ammonia Unloading and Storage

Emission Units: Tank 37 (50,000 lbs Ammonia Storage Tank)
Tank 38 (50,000 lbs Ammonia Storage Tank)
Tank 39 (50,000 lbs Ammonia Storage Tank)
Tank 40 (50,000 lbs Ammonia Storage Tank)
Tank 90 (137,000 lbs Ammonia Storage Tank)
Tank 91 (137,000 lbs Ammonia Storage Tank)
Tank 92 (80,000 lbs Ammonia Storage Tank)
Tank 93 (80,000 lbs Ammonia Storage Tank)
Tank 94 (3,200,000 lbs Ammonia Storage Tank)
Five Unloading Stations
Regulated Pollutant: NH_3 (Ammonia)
Applicable Regulations: 40 CFR 68

Stationary Rotating Machinery

Emission Units: Empire Caterpillar generator engine set at the powerhouse building
Caterpillar compressor engine set at the brine concentrator plant
Ingersoll-Rand Model 1200, 315-hp air compressor engine set (emergency use)
Regulated Pollutants: PM and Opacity
Applicable Regulations: R18-2-719
Fuel type: Natural gas

Fossil Fuel Fired Industrial and Commercial Equipment

Emission Units: 3 Process Steam Boilers (46 MMBtu/hr)

AOP-4 Super Steam Heater (5.4 MMBtu/hr)
Regulated Pollutants: PM, Opacity
Applicable Regulations: R18-2-702, R18-2-724
Fuel Types: Natural gas

Unclassified Sources

Emission Units: Prill Fluidized Beds
Prill Tower
Falling Film Evaporator #1
Falling Film Evaporator #2
Prill Pre-dryer
Crystallizer Falling Film Evaporator
Coating Drum
AOP-3 Cooling Tower
AOP-4 Cooling Tower
Powerhouse Cooling Tower
Regulated Pollutants: PM, Opacity
Applicable Regulations: R18-2-702, R18-2-730

Product Nitric Acid Storage Tank 96

Emission Unit: Tank 96 vent
Regulated Pollutant: NOx, Opacity
Applicable Regulations: R18-2-702

Mobile Sources

Emission Units: Mobile Sources
Off-Road Machinery
Regulated Pollutants: Opacity
Applicable Regulations: R18-2-801
R18-2-802

III. COMPLIANCE HISTORY

A. Compliance Activities

Compliance history of the source has been reviewed, and ADEQ records show that ANPI was cited the following notice or finding of violations associated with the air quality that are currently open. No further escalated enforcement actions with regard to the air quality issues, such as a judicial consent decree or administrative order, are currently open that need to be incorporated into the permit as applicable requirements.

1. A Notice of Violation (NOV) dated 2/22/93 was issued to ANPI by ADEQ with regard to an incident of Tank 96 vent fume opacity exceeding 40%, the standard set forth in A.A.C. R18-2-702.B. The Tank 96 stores product nitric acid made from AOP-3 and AOP-4. This tank is noted by ANPI in its Title V permit application to have recurring emission of brown nitric oxide fumes from the vent with an opacity likely in excess of the 40% standard. A schedule of compliance was submitted to ADEQ in a letter dated April 5, 2001. The compliance schedule specifies a plan to install a scrubber on the

tank to reduce the vent fume opacity to below the 40% requirement. Included in the schedule is an enforceable sequence of actions with milestones that leads the tank to compliance with the 40% opacity standard prior to the issuance of the Title V permit. To comply with the compliance schedule, ANPI submitted a minor permit revision application, dated April 12, 2001, for installation and operation of the storage tank vent fume scrubber. A letter by ANPI, dated July 31, 2001, indicated that installation of the scrubber was complete. The minor permit revision No. 1001609 was subsequently issued on September 27, 2001.

2. A Finding of Violation (FOV) dated 9/29/00 was issued to ANPI by USEPA-Region 9 for the source's failure to use "good air pollution control practices" during start-up periods of AOP-3 and AOP-4.

B. Emission Summary

The following table summarizes the ANPI's potential to emit (PTE) the criterial pollutants. The PTEs are excerpted from the ANPI's Title V permit application amendment, Table A-1.1, and for the emissions after control.

Pollutant	PM	PM-10	NOx	CO	SO_2	Non-methane VOC
PTE, tons/yr	204.69	204.69	265.80	46.35	1.01	7.74

C. Performance Testing

Performance testing results from 2000 are summarized in the following table, which demonstrate that the source was in compliance with the applicable standards. The results reflect on the source's stack emissions level under representative operating conditions.

Source	Pollutant	Standard	Test result	Date tested	Ref. method
AOP-3	NOx	3.0 lb/ton	0.884 lb/ton	February 28, 2000	Methods 1-4, 7E and 206
	NOx	8.60 lb/hr	6.26 lb/hr		
	Ammonia	3.00 lb/hr	0.169 lb/hr		
AOP-4	NOx	3.0 lb/ton	1.94 lb/ton	March 20, 2000	Methods 1-4 & 7E
Neutralizer Stack	PM (Ammonium Nitrate)	10.00 lb/hr	0.155 lb/hr	November 1, 2000	Methods 1-4, 206, 351.1 & 353.2
	Ammonia	10.00 lb/hr	0.00 lb/hr		
Prill Plant:	PM	28.991 lb/hr	11.50 lb/hr	October 31 to November 28, 2000	Methods 1-5
FFE-1			0.757 lb/hr		
FFE-2			0.243 lb/hr		
Prill Tower			7.87 lb/hr		
Pre-dryer			0.934 lb/hr		

FBD/C			1.702 lb/hr		
Crystallizer FFE	PM	15.446 lb/hr	0.122 lb/hr	November 27, 2000	Methods 1-5

IV. APPLICABLE REQUIREMENTS

The following table summarizes the ADEQ findings with respect to applicable requirements to emission units:

Unit ID	Date of Manufacture	Control Equipment	Applicable Regulations	Verification
AOP-3	Modified in 1991	NOx fume abater	Subpart G requirements: 40 CFR 60.72(a)(1) and (2) 40 CFR 60.73(a) 40 CFR 60.73(b) 40 CFR 60.73(c) 40 CFR 60.73(e) 40 CFR 60.74(a) 40 CFR 60.74(b)(1) thru (4)	The nitric acid production unit commenced modification in 1991 under Installation Permit No. 1229 which is after August 17, 1971, the trigger date for NSPS Subpart G requirements. The installation permit was issued on April 10, 1991.
			40 CFR 60.74(d) Installation Permit NO. 1229: Condition XII.B.3 Condition XII.B.4.a Condition XII.C Condition XII.E.1 Condition XII.F.1.a Condition XII.F.1.b	
AOP-4	1974	n/a	Subpart G requirements: 40 CFR 60.72(a)(1) and (2) 40 CFR 60.73(a) 40 CFR 60.73(b) 40 CFR 60.73(c) 40 CFR 60.73(e) 40 CFR 60.74(a) 40 CFR 60.74(b)(1) thru (4) 40 CFR 60.74(d)	The nitric acid production unit commenced construction after 1974 under Installation Permit No. 1081 which is after August 17, 1971, the trigger date for NSPS Subpart G requirements. The installation permit was issued on August 12, 1974.
LAN - Neutralizer	1991	Wet scrubber	Installation Permit No. 25017: Condition XII.A Condition XII.B Condition XII.C Condition XII.D Condition XII.G A.A.C. R18-2-702(B) A.A.C. R18-2-730(A)(1)(a)	The liquified ammonium nitrate plant commenced construction under Installation Permit No. 25017 issued on April 19, 1991. The plant is a unclassified source subject to A.A.C. R18-2-730. The plant is also required to implement an ammonia emissions reduction plan in accordance with Condition XII.B of the installation permit, in addition to operating a scrubber.
Prill Plant	Grandfathered	Wet cyclones and baghouse	A.A.C. R18-2-702(B) A.A.C. R18-2-730(A)(1)(a)	The date of construction commencement of the plant is unknown. The plant is a unclassified source subject to A.A.C. R18-2-730.

Unit ID	Date of Manufacture	Control Equipment	Applicable Regulations	Verification
Powerhouse	Steam Boilers - 1967 Superheater - 1973	n/a	A.A.C. R18-2-702(B) A.A.C. R18-2-724(B) A.A.C. R18-2-724(C)(1) A.A.C. R18-2-724(J)	The equipment affected under powerhouse are subject to A.A.C. R18-2-724, fossil-fuel fired industrial equipment standards.
Stationary Rotating Machinery	n/a	n/a	A.A.C. R18-2-719(B) A.A.C. R18-2-719(C)(1) A.A.C. R18-2-719(E) A.A.C. R18-2-719(F) A.A.C. R18-2-719(I) A.A.C. R18-2-719(J)	The affected equipment are subject to A.A.C. R18-2-719, existing stationary rotating machinery standards.
Petroleum liquids storage vessels	n/a	Submerged filling device	A.A.C. R18-2-710(B) thru (E)	The affected storage vessels are subject to A.A.C. R18-2-710, existing petroleum liquids storage vessels standards.
Other miscel. point sources	n/a	n/a	A.A.C. R18-2-702(B) A.A.C. R18-2-730(A)(1)(a)	The affected point sources are under unclassified source category subject to A.A.C. R18-2-730.
Non-point sources	n/a	various dust control measures	A.A.C. R18-2-604(A) and (B) A.A.C. R18-2-605 A.A.C. R18-2-606 A.A.C. R18-2-607 A.A.C. R18-2-612 A.A.C. R18-2-804(B)	This section deals with the emissions from existing and new non-point sources.
Mobile sources	n/a	n/a	A.A.C. R18-2-801(B) A.A.C. R18-2-802(A) A.A.C. R18-2-804(A)	This section deals with the emissions from mobile sources.
Other periodic activities	n/a	n/a	SIP Provision R9-3-527.C A.A.C. R18-2-702(B) A.A.C. R18-2-726 A.A.C. R18-2-727 A.A.C. R18-2-730.D A.A.C. R18-2-730.F A.A.C. R18-2-730.G A.A.C. R18-2-1101.A.8	This section deals with activities such as sandblasting, spray painting, demolition/renovation asbestos control, and gaseous or odorous materials handling.
Anhydrous ammonia unloading and storage	n/a	n/a	40 CFR 68.215(a)(1) 40 CFR 68.215(a)(2)(ii) 40 CFR 68.215(b)	This section deals with the ammonia accidental release.

V. PREVIOUS PERMITS AND CONDITIONS

A. Installation Permit Number 1081

This permit was issued on August 17, 1974 for AOP-4.

B. Permit Number 1229

This permit was issued on 1/16/92. Previous permit conditions are reviewed in the following table:

Old Permit Condition #	Condition Description	Determination				Comments
		Revised	Kept	Deleted	Streamlined	
I.	Permit Expiration	x				Attachment "A" has been revised to be equivalent to the current Attachment "A".
II.	Notification of Commencement of Construction and Startup			x		The condition is specific to the installation permit. The notification had been deemed completed in the construction phase and initial startup operation of AOP-3.
III.	Facilities Operation		x			All requirements to operate the facility in an efficient manner, and to maintain the equipment in good working order are addressed by the conditions of the permit.
IV.	Malfunction		x			This is an Administrative requirement and will be addressed in Attachment "A" of the new permit.
V.	Right to Entry	x				Revised to be consistent with the new Attachment "A"
VI.	Transfer of Ownership			x		This is an Administrative condition and is addressed in A.A.C.
VII.	Severability	x				Revised to be consistent with the new Attachment "A".
VIII.	Other Applicable Regulations			x		Catch all condition requiring the source to operate in accordance with all state and federal regulations. These regulations have been identified in the Title V permit, and thus the condition was removed.
IX.	Representations in Application for Permit and Exemption			x		This is an Administrative condition and is addressed either by statute or Attachment "A"
X.	Allowable Emissions	x				Condition restricts emissions from AOP #3 to 9.35 lb/hr and 37.67 TPY of NO_X; 24.78 lb/hr and 99.86 TPY CO; and 3 lb/hr and 12.09 TPY Ammonia. CO emission limitations were revised in Significant Revision 1001029
XI.	Operation of the Equipment			x		This condition is specific to an installation permit, in that operation of the equipment may not begin until an operating permit is obtained.
XII	Special Conditions			x		This condition was superceded and replaced by Condition XII of Significant Revision 1001029.

C. Permit Number 25017

This permit was issued on 1/16/92. Previous permit conditions are reviewed in the following table:

Old Permit Condition #	Condition Description	Determination				Comments
		Revised	Kept	Deleted	Streamlined	
I	Permit Expiration	x				Attachment "A" has been revised to be equivalent to the current Attachment "A".
II.	Notification of Commencement of Construction and Startup			x		This condition is specific to an Installation Permit. The notification had been deemed completed in the construction phase and initial startup operation of the neutralizer.
III.	Facilities Operation		x			All requirements to operate the facility in an efficient manner, and to maintain the equipment in good working order are addressed by the conditions of the permit.
IV.	Malfunction	x				This is an Administrative condition and will be addressed in the new permit.
V.	Right to Entry	x				Revised to be consistent with the new Attachment "A"
VI.	Transfer of Ownership			x		This is an Administrative condition and is addressed in A.A.C.
VII.	Severability	x				Revised to be consistent with the new Attachment "A".
VIII.	Other Applicable Regulations			x		Catch all condition requiring the source to operate in accordance with all state and federal regulations. These regulations have been identified in the Title V permit, and thus the condition was removed.
IX.	Representations in Application for Permit and Exemption			x		This is an Administrative condition and is addressed either by statute or Attachment "A".
X.	Allowable Emissions	x				Condition authorizes the source to emit no more than 10 lb/hr and 43.80 TPY of NH_3; and 10 lb/hr and 43.80 TPY of NH_4NO_3.

Old Permit Condition #	Condition Description	Determination				Comments
		Revised	Kept	Deleted	Streamlined	
XI.	Operation of the Equipment			x		This condition is specific to an installation permit, in that operation of the equipment may not begin until an operating permit is obtained.
XII.A	Applicable Rules	x				This is now contained in the Title V permit as an applicable requirement.
XII.B	Ambient Air Quality Guidelines		x			This condition required ANPI to submit a plan to identify other causes or leaks of NH_3 and control measures. This plan have been incorporated into Attachment "D" of the Title V permit.
XII.C	Odor Control	x				
XII.D	Emission Limits	x				This condition has been revised in order to show the most recent Emission Limitations.
XII.E	Stack Sampling Facilities	x				The new Attachment "A" contains this condition.
XII.F	Performance Tests	x				This condition requires and annual performance test for Ammonia and Ammonium Nitrate from the modified Ammonia Neutralizer
XII.G	Air Pollution Equipment	x				This is a requirement for ANPI to install, continuously operate and maintain a high efficiency wet scrubber to remove ammonia and ammonium nitrate from the ammonium nitrate manufacturing vessel exhaust gases.
Attachment "C"	Emissions Source - Maximum Allowable Emission Rates	x				This portion of the permit limits the Ammonia and Ammonium Nitrate emissions from the Ammonium Nitrate Neutralizing Vessel. These limits are 10 lb/hr and 43.8 TPY for both NH_3 and NH_4NO_3.

D. Permit Number M3-113-P0-98

This operating permit was issued on 12/20/1993. Previous permit conditions are reviewed in the following table:

Old Permit Condition #	Condition Description	Determination				Comments
		Revised	Kept	Deleted	Streamlined	
Attch “A” I	Permit Expiration	x				Attachment "A" has been revised to be equivalent to the current Attachment "A".
Attch “A” II.	Notification of Commencement of Construction and Startup			x		This condition is specific to an Installation Permit and is hereby removed from the Title V permit.
Attch “A” III.	Facilities Operation		x			All requirements to operate the facility in an efficient manner, and to maintain the equipment in good working order are addressed by the conditions of the permit.
Attch “A” IV.	Malfunction	x				This is an Administrative condition and will be addressed in the Title V permit.
Attch “A” V.	Right to Entry	x				Revised to be consistent with the new Attachment “A”
Attch “A” VI.	Transfer of Ownership			x		This is an Administrative condition and is addressed in A.A.C.
Attch “A” VII.	Severability	x				Revised to be consistent with the new Attachment “A”.
Attch “A” VIII.	Representations in Application for Permit and Exemption	x				This is an Administrative condition and is addressed either by statute or Attachment “A”.
Attch “A” IX.	Allowable Emissions	x				This condition only allows the emissions of air contaminants from only those facilities that are listed in the Attachments, unless the ability is added through another permit.
Attch “A” X.	Reserved Conditions	x				This is an Administrative condition and is addressed either by statute or Attachment “A”.
Attch “B” I.	Applicable Rules	x				This is now contained in the Title V permit as applicable requirements.
Attch “B” II.	Emission Limits	x				This condition has been revised in order to show the most recent Emission Limitations.
Attch “B” III.	Odor Control		x			This condition has been kept in Attachment “B”
Attch “B” IV.	Stack Sampling Facilities	x				Attachment “A” contains this condition.

Old Permit Condition #	Condition Description	Determination				Comments
		Revised	Kept	Deleted	Streamlined	
Attch "B" V.	Performance Tests		x			This condition requires an annual emissions test for PM on the Prill horizontal predryer, Prill FFE #1 & #2, the Crystallizer FFE, the Prill FBD, and the Prill tower; emissions tests for NO_X on the AOP #4 discharge stack; and emissions tests for NH4 on the Neutralizer wet scrubber exhaust. The condition also identifies each particular testing method for each performance test.
Attch "B" VI.	Continuous Emissions Monitoring (CEM)	x				This condition requires a CEM to measure the NO_X concentrations in the exhaust gas from AOP #4's discharge stack. The condition further requires the source to submit written reports of all excess emissions each quarter.
Attch "B" VII.	Fuel Requirement		x			This condition restricts the powerhouse boilers and the AOP #4 superheater to burning only natural gas.
Attch "B" VIII.	Waste Explosives Open Burning			x		This condition allows open burning of waste explosives at the Apache facility. Due to provisions included in a Consent Decree signed on June 15, 1994, this practice was ceased and the condition is removed from the Title V permit.
Attch "B" IX.	Air Pollution Equipment	x				This condition requires ANPI to continuously operate a high efficiency wet scrubber to remove ammonia and ammonium nitrate particulate matter from the exhaust gasses from the ammonium nitrate production process; and requires the predryer in the prill plant and the three fluidized beds to use cyclones for PM control.
NOTE				x		This note states that AOP-3 shall operate in accordance with the conditions of this permit and installation permit 1229 when it comes on line. All areas where there is a conflict between the 2 permits shall be controlled by this permit.

Old Permit Condition #	Condition Description	Determination				Comments
		Revised	Kept	Deleted	Streamlined	
Attch "C" I.	Anhydrous Ammonia Quality Control		x			This condition was added to ensure that no out-of-specification, reclaim or other non-standard grades of industrial anhydrous ammonia will be used at the facility. Vendor purity specifications are set at 99.5% ammonia content with not more than 0.5% water and not more than 5 ppm oil. Also, restrictions on the rail cars, and the requirement for in-plant filtration and separation of inerts.
Attch "C" II.	Design Criteria to Minimize Fugitive Emissions	x				This condition states what kind of connections and gasket joints should not be used, specifies how and where to weld joints, states the type of bolts, hardware, valves, gasketing material, sealants, and thermal indicators are to be used.
Attch "C" III.	Fugitive Emissions Detection and Control		x			This condition requires periodic inspections and maintenance to be conducted on the facility. The condition also specifies when repairs must commence, and how much staff should be available to conduct repairs.
Attch "C" IV.	Record Keeping	x				This condition has been revised to require the records to be kept for a period of 5 years.

E. Permit Number 1001029 - Significant Revision to Installation Permit 1229

This permit revision was issued on 11/5/99. Previous permit conditions are reviewed in the following table:

Old Permit Condition #	Condition Description	Determination				Comments
		Revised	Kept	Deleted	Streamlined	
XII.A	Applicable Rules	x				All applicable rules are identified in the permit shield, and are sited as the basis for every condition.
XII.B	Emissions Limits	x				This condition limits the NO_X emissions from the discharge stack in AOP#3 to 3.0 lb/ton of acid produced. The condition further limits opacity to 10%, limits emissions from other stacks to 9.35 lb/hr and 37.67 TPY of NO_X, and 3.00 lb/hr and 12.09 TPY of Ammonia.

Old Permit Condition #	Condition Description	Determination				Comments
		Revised	Kept	Deleted	Streamlined	
XII.C	Odor Control		x			Since NO_x, is primarily odorless, this condition was applied to ammonia emissions from AOP-3.
XII.D	Stack Sampling Facilities	x				This condition is now included in Attachment "A".
XII.E	Performance Test	x				This condition requires annual NO_X performance tests on the discharge stack of AOP-3. It further identifies the applicable test methods for such tests.
XII.F	Continuous Emissions Monitoring (CEM)	x				This condition requires CEM's to be installed, operated and maintained on AOP-3 discharge stack.
XII.G	Air Pollution Equipment	x				ANPI is required to continuously operate and maintain a selective catalytic reduction system to remove NO_X from the process gasses leaving the Ammonia Converter of Nitric Acid plant AOP-3 in accordance with the mfg's specs.
XIII	Compliance Certifications	x				This condition is now included in Attachment "A"

F. Permit Number 1001066 - Minor Permit Revision to Operating Permit M031143P0-98

This permit revision was issued on 9/1/99. Previous permit conditions are reviewed in the following table:

Old Permit Condition #	Condition Description	Determination				Comments
		Revised	Kept	Deleted	Streamlined	
X.A	Emissions Limitations and Standards		x			This condition restricts the PM emissions from the generator to the PWR equation, 10% opacity, and to burning only natural gas in the generating unit.
X.B	Monitoring, Record Keeping, and Reporting			x		This condition was deleted since the sulfur content of natural gas is naturally low, and would normally be taken care of by using fuel supplier certificates to verify that the sulfur content of the fuel was less than the 0.8% required under A.A.C. R18-2-719.J, which is typically applied only to those source burning some sort of fuel oil.

VI. MONITORING AND RECORDKEEPING REQUIREMENTS

The following is discussion of the periodic monitoring measures the permit requires ANPI to implement under the periodic monitoring rule A.A.C. R18-2-306.A.3.c. The compliance assurance monitoring (CAM) is not required under this Title V permit since ANPI has a complete Title V application as of April 20, 1998. The application submittal was dated October 26, 1994. However, ANPI will be subject to the CAM requirements at the time of the permit renewal.

A. AOP-3 and AOP-4

1. Opacity

The Nitric Acid Plants, AOP-3 and AOP-4, are subject to 10% opacity standard set forth in 40 CFR 60.72(a)(2). The Permittee is required under A.A.C. R18-2-306.A.3.c to install, maintain and operate continuous opacity monitoring systems on the AOP-3 and AOP-4 exhaust stacks to perform opacity periodic monitoring. The monitoring systems are required to meet the requirements of 40 CFR 60, Appendix B, Performance Specification 1.

2. NOx

The tailgas exhaust from AOP-3 and AOP-4 is subject to the NOx emission standard of 3.0 lb per ton of acid produced specified in 40 CFR 60.72(a)(1). The Permittee is required to maintain and operate a NOx continuous monitoring system consistent with Subpart G requirements at each acid plant tailgas exhaust that will be utilized to monitor and record NOx emissions discharged into the atmosphere. AOP-3 tailgas is also subject to the NOx emissions limits of 8.60 lb per hour and 37.67 tons per year, set forth in Installation Permit 1229. These limits were set for the purpose of NOx emission PSD netting out. A continuous flow monitor combining with the NOx CEMS is to be maintained and operated at the AOP-3 exhaust to determine compliance with the NOx emission rate limits. To assure the measurement quality of the compliance monitor, the NOx CEMS is required, at a minimum, to meet the requirements of 40 CFR 60.13 and 40 CFR 60, Appendix F.

3. Ammonia

AOP-3 is subject to ammonia discharge limits of 3.0 lb per hour and 12.09 tons per year, set forth in Installation Permit 1229. The Permittee is required to conduct performance testing annually for the AOP-3 ammonia emissions.

B. Liquified Ammonium Nitrate Plant

1. Opacity

The stack visible emission of the Neutralizer is subject to a 40% opacity standard from A.A.C. R18-2-702(B). A baseline value is to be established for the stack opacity under normal representative operating conditions. A minimum of three Method-9 observations shall be taken to establish the baseline value. The Permittee is required to make a bi-weekly survey of the stack emission against the baseline value. If the Permittee finds that on an instantaneous basis the stack emission is in excess of the baseline value, then he is required to make a six-minute Method 9 observation. If visibility or other conditions prevent the observation, the observer shall document these conditions. If the observation indicates opacity in excess of the baseline value, then the Permittee is required to initiate corrective action as necessary to reduce opacity to below the baseline level and record the source of emission, date, time, and result of the observation, and the name of the observer. If this observation indicates

opacity in excess of the 40% standard then the Permittee is also required to report it as excess emissions.

2. Particulate Matter

The Neutralizer particulate matter emission is subject to the process weight rate equation specified in A.A.C. R18-2-730(A)(1)(a). This standard is to be complied with by operating a high efficiency wet scrubber on the neutralizer exhaust gases. The Permittee is required to install, calibrate, maintain and operate monitoring devices to continuously measure the pressure differential of the gas stream through the venturi scrubber and the scrubbing liquid flow rate. If the pressure differential or the liquid flow rate is observed beyond the range of ±30 percent of the average value, then the Permittee is required to initiate necessary corrective action to restore the parameters back to the range and record the date, time, and result of the observation, and the corrective actions taken. Although no data are available to directly correlate the measurements to particulate matter emissions, doing so would at least indicate potential problems with the wet scrubber. If corrective actions are taken to rectify the problems associated with the scrubber, then compliance can be inferred on the basis that the source operates its pollution control equipment in a manner consistent with good air pollution control practices.

3. Ammonia

The Neutralizer is subject to ammonia discharge limits of 10.00 lb per hour and 43.80 tons per year, set forth in Installation Permit 25017. The Permittee is required within sixty days from the date of permit issuance to submit for approval by ADEQ a periodic monitoring measure for the Neutralizer ammonia emissions.

C. Ammonium Nitrate Prill Plant

Opacity/Particulate Matter

All point sources of the prill plant (and the crystallizer falling film evaporator as well, which is operated in a batch mode) are subject to 40% opacity standard from A.A.C. R18-2-702(B) and the process weight rate required by A.A.C. R18-2-730(A)(1)(a). The Permittee is required under A.A.C. R18-2-306.A.3.c to install, maintain and operate, for each of the five wet cyclone units, pressure gauges and orifice flow flange sets to monitor the static pressure drop across each cyclone unit and the scrubbing solution flow rate to the unit. Baseline pressure and flow rate are to be established for each cyclone unit under normal representative operating conditions. The Permittee is required to make a bi-weekly survey of each cyclone unit against its baseline values, and keep in record of the pressure and flow rate readings. If the survey indicates that the pressure and flow rate readings are beyond the baseline range, then the Permittee is required to initiate corrective action as necessary to bring the readings back to the baseline range.

In addition, a baseline opacity value is to be established for the stack of the dry particulate ammonium nitrate baghouse under normal representative operating conditions. A minimum of three Method-9 observations shall be taken to establish the baseline. The Permittee is required to make a bi-weekly survey of the baghouse stack against its baseline value. If the Permittee finds that on an instantaneous basis the stack emission is in excess of the baseline value, then he is required to make a six-minute Method 9 observation. If visibility or other conditions prevent the observation, the observer shall document these conditions. If the observation indicates opacity in excess of the baseline value, then the Permittee is required to initiate corrective action as necessary to reduce opacity to below the baseline level and record the source of emission, date, time, and result of the observation, and the name of the observer. If this observation indicates opacity in excess of the 40% standard then the Permittee is also required to report it as excess

emissions.

D. Fossil-fuel Fired Industrial and Commercial Equipment

1. Opacity

All affected fossil-fuel fired equipment are subject to 15% opacity standard set forth in A.A.C. R18-2-724(J). The Permittee is required to make a bi-weekly survey of the visible emissions from the affected facilities when they are in operation. If the Permittee finds that on an instantaneous basis the visible emissions are in excess of 15% opacity, then he is required to make a six-minute Method 9 observation. If visibility or other conditions prevent the observation, the observer shall document these conditions. If this observation indicates opacity in excess of 15% then the Permittee is required to report it as excess emissions, and initiate corrective action as necessary to bring the opacity to below 15%. If the Permittee finds that the visible emissions are less than 15% opacity, then the Permittee is required to record the source of emission, date, time, and result of the observation, and the name of the observer.

2. Particulate Matter

Particulate matter emissions from the affected facilities are subject to the maximum allowable emission rate equation specified in A.A.C. R18-2-724(C)(1). The Permittee is required to maintain a record for the fuel lower heating value and fuel firing rate, and compute on a bi-weekly basis the particulate matter emissions using the AP-42 formulas and recorded data.

E. Stationary Rotating Machinery

1. Opacity

All stationary rotating machineries are subject to 40% opacity standard set forth in A.A.C. R18-2-719(E). The Permittee is required to make a bi-weekly survey of the visible emissions from the affected facilities when they are in operation. If the Permittee finds that on an instantaneous basis the visible emissions are in excess of 40% opacity, then he is required to make a six-minute Method 9 observation. If visibility or other conditions prevent the observation, the observer shall document these conditions. If this observation indicates opacity in excess of 40% then the Permittee is required to report it as excess emissions, and initiate corrective action as necessary to bring the opacity to below 40%. If the Permittee finds that the visible emissions are less than 40% opacity, then the Permittee is required to record the source of emission, date, time, and result of the observation, and the name of the observer.

2. Particulate Matter

Particulate matter emissions from all stationary rotating machineries are subject to the maximum allowable emission rate equation specified in A.A.C. R18-2-719(C)(1). The Permittee is required to maintain a record of quantity, and lower heating value of the fuel being fired.

F. Other Miscellaneous Point Sources

Opacity/Particulate Matter

All affected miscellaneous point sources are subject to 40% opacity standard from A.A.C. R18-2-702(B) and the process weight rate required by A.A.C. R18-2-730(A)(1)(a). A baseline opacity value is to be

established for each stack under normal representative operating conditions. A minimum of three Method-9 observations shall be taken to establish the baselines. The Permittee is required to make a bi-weekly survey of each stack against its baseline value. If the Permittee finds that on an instantaneous basis the stack emission is in excess of the baseline value, then he is required to make a six-minute Method 9 observation. If visibility or other conditions prevent the observation, the observer shall document these conditions. If the observation indicates opacity in excess of the baseline value but less than 40%, then the Permittee is required to initiate corrective action as necessary to reduce opacity to below the baseline level and record the source of emission, date, time, and result of the observation, and the name of the observer. If this observation indicates opacity in excess of the 40% standard then the Permittee is also required to report it as excess emissions.

G. Non-point Sources

The standards in Article 6 are applicable requirements for non-point sources. The following sources will be monitored:

1. Driveways, parking areas, vacant lots
2. Unused open areas
3. Open areas (Used, altered, repaired, etc.)
4. Construction of roadways
5. Material transportation
6. Material handling
7. Storage piles
8. Stacking and reclaiming machinery at storage piles

All of these areas must comply with the opacity limitation of 40%. The control measures for these sites include gravel for driveways (1) and native vegetation for unused open areas (2). Most of the other sources require control measures of dust suppressants and/or wetting agents (3-8). Material transportation and storage piles also include covering the material (5 and 7), while stacking and reclaiming includes minimizing fall distance (8). In case the instances of open burning occur, the condition in the permit directs the Permittee to obtain a permit from ADEQ, or the local officer in charge of issuing burn permits.

Monitoring and recordkeeping requirements for driveways (1) includes maintaining the gravel, and keeping a log of dates new gravel is added. Unused open areas (2) includes a bi-weekly status of the areas and dates fresh vegetation was added. All other non-point sources (3-8) require a record of the date and type of activity performed, and the type of controls used. Also, monitoring requirements for the applicable open burning rule may be satisfied by keeping all open burn permits on file.

H. Other Periodic Activities

1. Abrasive Sand Blasting

In case that abrasive sand blasting activities are conducted on-site, R18-2-726 and R18-2-702 (B) are applicable requirements, and as such have to be included in the permit. It was decided to prescribe minimal monitoring requirements for this activity.

2. Spray Painting

In case that spray painting activities are conducted on-site, R18-2-727 and R18-2-702(B) are applicable requirements, and as such, have to be included in the permit. R18-2-727(A) and R18-2-727(B) are

included in the approved State Implementation Plan (SIP). R18-2-727(c) and R18-2-727(D) are also a part of the approved SIP. They are present in the definitions section of the SIP as R9-3-101.117. EPA approved SIP provision R9-3-527.C is not present in the amended rule. However, R9-3-527.C is an applicable requirement, and is federally enforceable till the current State SIP is approved by the EPA. It was decided to prescribe minimal monitoring requirements for this activity.

3. Roadway and Site Cleaning Machinery

   As a means of demonstrating compliance with the Article 8 requirements, the Permittee has been required to keep a record of all emissions related maintenance activities performed on Permittee's roadway and site cleaning machinery stationed at the facility as per manufacturer's specifications.

4. Asbestos Demolition/Renovation

   As a means of demonstrating compliance with the requirements for asbestos demolition/ renovation activities, the Permittee has been required to keep a record of all relevant paperwork on file. The relevant paperwork shall include but not be limited to the "NESHAP Notification for Renovation and Demolition Activities" form, and all supporting documents.

5. Nonvehicle Air Conditioner Maintenance and/or Services

   As a means of demonstrating compliance with the Title VI requirements, the Permittee has been required to keep a record of all relevant paperwork to the applicable requirements of 40 CFR 82 - Subpart F on file.

VII. TESTING REQUIREMENTS

The testing methods, source location and pollutants to be tested, and testing frequency are presented in the following table:

Source	Pollutant	Testing Method	Testing Frequency
AOP-3	NOx	Reference Method 7	Annual
AOP-3	NOx RATA	Appendix B - PS2	Annual
AOP-3	Flow RATA	Appendix B - PS6	Annual
AOP-3	Ammonia	Reference Method 206	Annual
AOP-4	NOx	Reference Method 7	Annual
LAN	PM	Reference Method 5	Annual
LAN	Ammonia	Reference Method 206	Annual
FFE-1	PM	Reference Method 5	Annual
FFE-2	PM	Reference Method 5	Annual

Source	Pollutant	Testing Method	Testing Frequency
Prill Tower	PM	Reference Method 5	Annual
Prill Plant Pre-dryer	PM	Reference Method 5	Annual
FBD/C	PM	Reference Method 5	Annual
Crystallizer FFE	PM	Reference Method 5	Once during the Permit term